

### ABSTRACT OF THE DISCLOSURE

The present invention is directed to a method of reducing the viability of a tumor cell involving administering a virus that is not a common human pathogen to the tumor cell. Preferably, the virus exhibits differential susceptibility, in that normal cells are not affected by the virus. This differential susceptibility is more pronounced in the presence of interferon. The tumor cell is characterized by having low levels, or no, PKR activity, or as being PKR<sup>-/-</sup>, STAT1<sup>-/-</sup> or both PKR<sup>-/-</sup> and STAT1<sup>-/-</sup>. The virus is selected from the group consisting of Rhabdovirus and picornavirus, and preferably is vesicular stomatitis virus (VSV) or a derivative thereof.